

Amend Table 4.1 of the Public Facilities Manual to read as follows:

TABLE 4.1 Minimum Standards Required for Site Density Testing (68-00-PFM)

TEST LOCATIONS	TESTING FREQUENCY
<b>Embankments</b> Fill sections for streets, <del>and</del> travelways <u>and pipestem driveways</u>	One <u>density</u> test shall be performed per 5000 ft <sup>2</sup> (500 m <sup>2</sup> ) per 6" (150mm) compacted lift.  <u>The embankment test shall not be performed at the same spot where the utility trench backfill test was performed. Trench testing shall be performed in addition to the embankment test.</u>  <u>Under curb and gutter, one density test shall be performed per 300' (90m) on alternating sides.</u>
<b>Subgrade</b> Cut <u>in existing fill and fill sections</u> for streets, travelways and pipestem driveways	<u>Proofrolling, evaluation and approval by the geotechnical engineer of record (undercut and stabilization may be necessary as determined by the geotechnical engineer of record). The exception to this is in the proposed underground utilities, where the existing fill shall be completely removed and replaced with new engineered fill placed and compacted as per 4-0401.2, for utility support.</u>  <del>One test shall be performed per 5000 ft<sup>2</sup> (500 m<sup>2</sup>) of undivided roadway at the final subgrade elevation.</del>  <del>The subgrade test shall not be performed at the same spot where the utility trench backfill test was performed. Trench testing shall be performed in addition to the subgrade test.</del>  <del>Under curb and gutter, one test shall be performed per 300' (90m) on alternating sides.</del>
<b>Subgrade</b> <u>Cut in natural soils</u>	<u>Proofrolling, evaluation and approval by the geotechnical engineer of record.</u>
<b>Subbase Material</b> For streets, <del>and</del> travelways, <u>and pipestem driveways</u>	One <u>density</u> test shall be performed per 5000 ft <sup>2</sup> (500 m <sup>2</sup> ) per 6" (150mm) compacted lift.  When the subbase aggregate is placed in layers or lifts, each lift shall be tested.  Under curb and gutter when placed before the subbase material in the street, perform one <u>density</u> test per 300' (90m) on alternating sides.
<b>Base Material</b>	One <u>density</u> test shall be performed per 5000 ft <sup>2</sup> (500 m <sup>2</sup> ) at the finished base grade. When the base aggregate is placed in layers or lifts, each 6" (150mm) compacted lift shall be tested at the required frequency.

<b>Storm Drainage System - Backfill *</b>	One <u>density</u> test shall be performed per 300' (90m) and at vertical intervals not to exceed 12" (300mm).
<b>Sanitary Sewer, Water and Gas Mains - Backfill *</b> (Note: Field density test reports must be provided to the Fairfax County Site Inspector before field approval is given for issuance of tap permits.)	One <u>density</u> test shall be performed per 300' (90m) or between manholes if less than 300' (90m) apart and at vertical intervals not to exceed 12" (300mm). Refer to § 10-0104.2L(13) and Plate Nos. 18-10 (18M-10) or 19-10 (19M-10).
<b>Sanitary Sewer, Water and Gas Laterals - Backfill for Stub Constructed in Conjunction with Utility Main *</b>	One <u>density</u> test shall be performed per 5 laterals and at vertical intervals not to exceed 12" (300mm).
<b>Sidewalks and Driveway Aprons</b>	Sidewalk subgrade: One <u>density</u> test shall be performed per 500' (150m) on alternating sides at the subgrade elevation. A minimum of two <u>density</u> tests per street is required.  Driveway apron: One <u>density</u> test per apron shall be performed.

**Amend Section 7-0500 of the Public Facilities Manual to read as follows:**

#### **7-0500 PAVEMENT DESIGN**

##### **7-0501 Design for Subdivision Road Pavements**

7-0501.1 (72-01-PFM) Required thicknesses of subbase, base course, and top or surface are shown in the street standards. Subbase thickness is based on a subgrade CBR value of 10. CBR tests of subgrade soils must be conducted for actual determination of required subbase thickness prior to construction.

7-0501.2 (72-01-PFM, 62-98-PFM) Alternate equivalent pavement sections may be submitted with the approval of the Director prior to construction. Their design shall be in accordance with either the current VDOT Pavement Design Guide for Subdivision and Secondary Roads in Virginia or AASHTO Guide for Design of Pavement Structures, 1993 or for CBR test values less than 10, 1" (25mm) of additional aggregate subbase shall be provided for each point below 10. The VDOT design method shall not be used when any subgrade CBR value is less than 4. When the subgrade CBR value is less than 4, 1" (25mm) of additional subbase is required for each point below CBR 10. If one or both consecutive CBR values are less than 4, the pavement design shall be based on the lowest CBR value and remain constant between these test locations.

7-0501.2A (72-01-PFM) All equivalency values shall be determined in accordance with the VDOT Pavement Design Guide, Appendix III, Paving Material & Allowable Values. The pavement design may vary in different sections of the road, where CBR values or traffic volumes change significantly. Subsurface drainage and construction method shall be considered in making this determination.

7-0501.2B (72-01-PFM) Laboratory CBR tests are required for all pavement designs submitted for review. These tests shall be made at each change in subgrade soils and at a maximum spacing of 500' (150m) where subgrade soils remain constant. Spacing of CBR tests shall be in accordance with the VDOT Pavement Design Guide, and a minimum of 2 CBR samples will be required for cul-de-sac or dead end streets of less than 500' (150m) in length.

7-0501.2C (72-01-PFM) Where base asphalt is required, a minimum thickness of 1.5" (40mm) of temporary asphalt surface shall be placed immediately after the base has been compacted and cured. Temporary asphalt shall be placed and maintained in "sag" curves to provide positive drainage to curb inlets. The temporary asphalt shall be removed immediately prior to placing the final surface course. As

an alternate method of obtaining positive drainage, the approach gutters for drop inlet structures in sag areas shall temporarily be omitted. Instead, the face block is to be secured to the drop inlet and the base asphalt is to be finished flush with the opening of the structure at the face block. Immediately prior to placement of the final surface course, the base asphalt shall be removed and the approach gutter section cast.

**7-0502 Private Streets, Access Streets and Aisles, Parking Lots (27-89-PFM)**

7-0502.1 In developments subject to common or joint use, such as townhouses, patios, and garden courts:

7-0502.1A For geometric design, see Plate 4-7 (4M-7).

7-0502.1B For pavement design, see standard pavement § 7-0502.5.

7-0502.2 For single family condominium and single family residential, 5 or less lots:

7-0502.2A For geometric design, use the pipestem lot standards.

7-0502.2B For pavement design, use standard pavement § 7-0502.5.

7-0502.3 For single family residential (including condominium) subdivisions in which the average lot size or equivalent is 18,000 ft<sup>2</sup> (1672 m<sup>2</sup>) or more and when the street serves more than 5 units:

7-0502.3A For geometric design, see Plate 1-7 (1M-7)

7-0502.3B For pavement design, see Plate 1-7 (1M-7)

7-0502.4 For single family residential (including condominium) subdivisions in which the average lot size or equivalent is less than 18,000 ft<sup>2</sup> (1672 m<sup>2</sup>) and when the street serves more than 5 units:

7-0502.4A For geometric design, see Plates 2-7 (2M-7) .

7-0502.4B For pavement design, see Plates 2-7 (2M-7) .

7-0502.5 Standard Pavement ~~Design and Pipestem Drive Section~~

7-0502.5A When maintained by the property owner (e.g., shopping centers, office buildings):

7-0502.5A(1) (47-95-PFM) A 6" (150mm) base and a 1-1/4" (~~2535~~mm) asphalt surface is required to ensure a dustless surface.

7-0502.5A(2) No soils test or subbase will be required.

7-0502.5A(3) A "2-shot" surface treatment may be approved by the Director in light traffic situations and in R-C Cluster developments.

7-0502.5A(4) A concrete pavement design in accordance with current engineering procedures is acceptable.

7-0502.5B When maintained by individual homeowners, a homeowners association or similar organization:

7-0502.5B(1) (47-95-PFM) A 6" (150mm) base and a 2 1/2" (65mm) asphalt surface is required to ensure a dustless surface.

7-0502.5B(2) Soils tests shall be provided for the laboratory CBR test, VTM-8. If the CBR is less than 10, 1" (25mm) of subbase is required for each point below CBR 10. If the subgrade CBR is 10 or greater, no subbase is required. These criteria do not apply to 5-acre subdivisions or their metric equivalent.

7-0502.5B(3) A concrete pavement designed in accordance with current engineering procedures is acceptable.

7-0502.6 All aggregate subbase and base material, as well as subgrade for all streets, parking areas, sidewalks, ~~shoulders, pipestem driveways,~~ and curb and gutter shall be compacted in accordance with VDOT Road and Bridge Specifications, Sections 305, 308 and 309.

**7-0503 ~~PrivateStandard~~ Driveway Entrances and Pipestem Driveway Standards.**

7-503.1 Private Driveways

7-503.1A ~~See Plates 10-7 (10M-7), 11-7 (11M-7), 19-7 (19M-7), and 23-7 (23M-7) for pipestem standards.~~ ~~PrivateStandard~~ driveway entrances on curb and gutter streets shall conform to VDOT standards (CG-9B through CG-9D). ~~PrivateStandard~~ driveway entrances on streets with no curb and gutter shall conform to Plate 22-7 (22M-7).

7-0503.2 Pipestem Driveways

7-0503.2A For geometric design, see Plates 10-7 (10M-7), 11-7 (11M-7), 19-7 (19M-7), and 23-7 (23M-7).

7-0503.2B For pavement design, see standard pavement § 7-0502.5.

7-0503.2C All aggregate subbase and base material, as well as subgrade for pipestem driveways shall be compacted in accordance with VDOT Road and Bridge Specifications, Sections 305, 308 and 309.